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Logistics and Strategy

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LOGISTICS AND STRATEGY

A lecture delivered
at the Naval War College
on 7 October 1957 by

Rear Admiral Henry E. Eccles, U. S. N., (Ret.)

Gentlemen:

I come before you today with rather mixed feelings. I am delighted to talk to you, but I feel a sense of special diffidence because I am going to bite off a very big chunk. I can't tell you all there is to know about it — no one can. However, it is very, very important that somebody take a bite at this problem.

The Atlantic Monthly of October, 1957 in "The Atlantic Report on the World Today," headlined Washington, speaking of the appointment of a new Secretary of Defense, said:

The task facing McElroy is simply this: to devise a new military doctrine and to create the military forces necessary to carry it out in the light of the changed and changing nuclear facts of life and the nature of the Communist threat.

Theoretically, under our unification system, the Joint Chiefs of Staff are supposed to give military advice to our civilian masters — namely, the high-level government executives who, under the Constitution, have management of our national security matters (We must also remember that we have two other masters: public opinion and the Congress). Until recent years, those responsible for the management of military affairs could turn to a classical theory of war for enlightenment in times of controversy. Today, our classical theories of war are clouded by doubt and cast into disrepute as a result of the nuclear-electronic phase of the Industrial Revolution. Instead of the military advice — the military doctrine — being presented in clear-cut manner to the civilian masters of this country, it would appear that frequently

the supposedly clear military doctrine is a rather curious mixture of sound military theory and various party-line propaganda statements. I suggest that this situation requires a reexamination of everything we know about the theory of war.

In order to make this reappraisal, we must review the classical theories of war, then study the political, electronic and nuclear revolutions which have taken place in the last few years and understand the influence of these factors on the theories of war. It is for that reason that I speak to you with great humility, because this is a very great task.

First, I would like to say that the most important element in war in the past has been the mind of command, and I believe this will continue to be the most important element in war — the intellectual aspects of command. We have had some distinguished gentlemen discuss decision making here, and sometimes the terms and abstractions which they used were not easy to grasp. Admiral Bates gave a splendid discussion of certain specific decisions.

Some years ago a very great philosopher, Alfred North Whitehead, was asked by a friend: "What is more important, ideas or facts?"

Whitehead pondered the question for a moment and then said: "Ideas *about* facts."

I suggest this thought makes an appropriate kickoff for a discussion of strategy and logistics and the manner in which logistics influences strategy.

In this discussion, I will use certain abstractions and I will talk about theory. Theory does not pretend to solve problems — theory does shed light. It helps to avoid or to compensate for trouble. Theory assists the man who is thinking about a problem, and it can help him to solve it.

A comprehensive theory of war, among other matters, must include an understanding of the nature of war. It also must in-

clude the theory of strategy and the theory of logistics. Today, I will discuss the theory of strategy and the theory of logistics very briefly. But, before going into the substance of the discussion, I will quote a recent comment on theory in general.

Samuel Huntington in an excellent book, *The Soldier and The State*, has said:

Understanding requires theory; theory requires abstraction; and abstraction requires the simplification and ordering of reality . . . Obviously the real world is one of blends, irrationalities, and incongruities: actual personalities, institutions, and beliefs do not fit into neat logical categories, yet neat logical categories are necessary if man is to think profitably about the real world in which he lives and to derive from it lessons for broader application and use.

We must start from a sound perspective when we think about this, and I suggest that the Command Perspective is the great perspective for those who are interested in the study of war.

I submit that:

The perspective of command is that point of view which knows the nature and relationships of the technical problems of the command; which recognizes how they affect its capabilities; and which understands the amount of time and effort required to solve these problems.

The commander must know the tasks, the problems, and the challenges of his technical specialists. He must be able to reconcile the contradictions which inevitably arise. He must be able to compensate for deficiency in one area by action in another, and he must be at times willing to sacrifice one or more special interests in the higher interest of the over-all objectives of the command. This is not a simple task.

To speak profitably about strategy and logistics today, we must understand the problem which is facing command. What is war today? Well, war is no longer the old business of two teams coming out on the stadium after a formal mobilization with a referee, the laws of war, and a whistle — the declaration of war — and an end with another whistle, which was the signing of the peace, and a definite score with a victor and a vanquished. It's not that way. It is a harsh fact of life that we are living in a state of continuing conflict.

This Chart (See Figure 1) has been up on the Bulletin Board for a week or ten days. I suggest that in the mind of command — military command, particularly — and the governmental command at the national security — presidential level, we are in the midst of a Spectrum of Conflict in which we start over to the left with an abstract, impossible, romantically ideal situation of peaceful international competition — sweetness and light — and go on successively through the Spectrum. In approximate terms, we encounter areas of economic competition with tariffs, trade quotas, currency restrictions and devaluations, political sabotage, propaganda, boycotts, subversive infiltration, arrest, deportation, seizures of ships and cargoes, blockades, border incidents, violations and reprisals, materiel sabotage, riots and revolutions fomented from outside, seizure of territory, partial mobilization, air and naval bombardment, full mobilization, submarine sinkings, expansion of the scope and area of the conflict, expansion of the objectives, and, finally, we may come close to the use of thermo-nuclear weapons — gas and bacteriological warfare.

Now, here, at the left, we have a state of peace. Obviously, it is peace. Here, in the middle, it is not quite so obvious — it changes a little bit and pretty soon it has been taken over by a cold war, and peace is technical only; it is not a real peace. And, moving to the right, we find that the war warms up — it gets hot. There are many limitations here. Pretty soon, we have gotten to the point where there are no limits. Thus, we have absolute

peace, relative peace, increasing tension, limited war, unlimited total war. We have an area where we can control what is going on. Our policies may be effective in exercising control, but eventually we may lose control and become helpless except to ride the whirlwind.

Where is the dividing line between the controllable and the uncontrollable? Nobody knows. It cannot be determined. As tension increases, more weapons and tools of conflict are used. In each case as more weapons come into play the use of the older weapons continues. Thus, there is a cumulative involvement which eventually may get out of control.

Now gentlemen, we hear a great deal about the limitation of war. If we are to think accurately about war or conflict, we mustn't kid ourselves. There have been very, very few instances in history of completely unlimited wars. The fact of the matter is that the vast majority of wars have been limited. Now, how can wars be limited? They are limited by objectives. They are limited by the scope, and the scope can be divided either by nations or by geography. They are limited by the degree of effort applied. They are limited by the weapons used. So, if you wish to understand the situation, you must be sure that when you are thinking in terms of limited and unlimited wars you think in terms of: limitation of objectives, limitation of scope, limitation of effort, limitation of weapons. There is such a thing as unlimited war but it is very rare, and up until recently an unlimited war — while it might be extremely damaging — did not have the implications that an unlimited war with present technology might have.

I have spoken of the Spectrum of Conflict. I have spoken of the responsibilities of command. Now, regardless of what politicians say or what directives are issued, we must remember that we are dealing with a form of government in which the political leadership can change. No political party today can commit the government party of 1965 to any course of action whatsoever.

The military commander has got to be able to think so realistically, so toughly about the war that when the politicians change their minds and say, "We're not going to do it the way we said we would do it yesterday; we're going to do it some other way," that military commander will not be caught short, mentally. He may be caught short from the standpoint of forces, but his mind has got to be able to deal with the new situation.

Now let's take a look at the structure of war itself (See Figure 2). Strictly, it is conflict — but it is easier to speak of it as war.

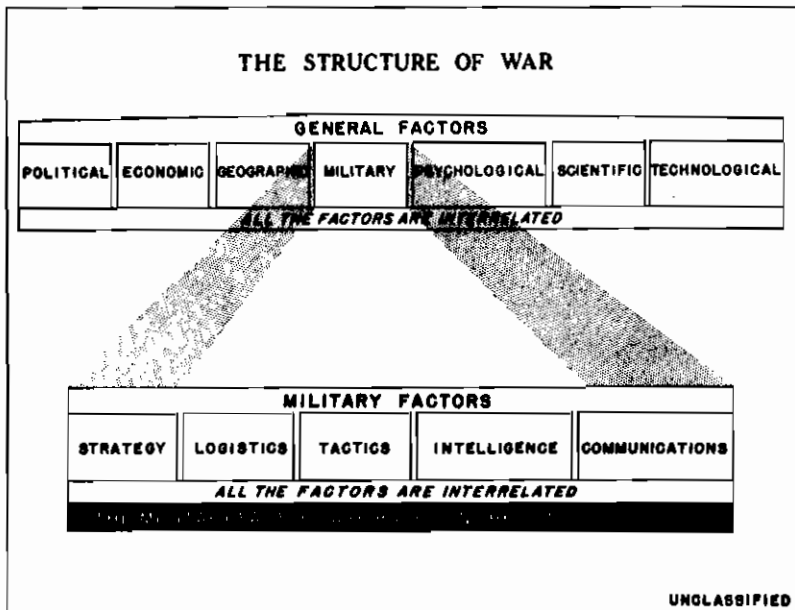


Figure 2

The structure of war consists of a group of general factors: political, economic, geographic, military, psychological, scientific, and technological — and, you might add somewhere along this line, ideological. All these factors are interrelated. There is no sharp division between them.

Today, we are not going to deal with the broader factors. I am going to concentrate on the military factors, and I suggest to you that military factors consist of: strategy, logistics, tactics, intelligence, and communications. These military factors are based on the general factors, and all the factors are interrelated.

Let's give a brief description, not definition, of the military factors. I suggest that we are on firm ground if we say that:

<i>STRATEGY</i>	Determines the objective and broad methods for attainment.
<i>LOGISTICS</i>	Provides the means to create and to support combat forces and weapons.
<i>TACTICS</i>	Determines the specific employment of forces and weapons to attain objectives of strategy.
<i>INTELLIGENCE</i>	Sheds light on the situation.
<i>COMMUNICATIONS</i>	Transmits information and decisions

Well, I said that these factors were interrelated. How are they interrelated? Here, in these three discs (See Figure 3) is an abstract concept of how they may be interrelated. We have the dominant factors of strategy, logistics and tactics. Every war situation is a blend of strategical, logistical, and tactical considerations which can be represented by three discs. Sometimes they coalesce into a single disc; at other times they draw apart, but never beyond the point of tangency.

The mind of command is primarily interested in that central area where there is a blending of strategic, logistical and tactical considerations. Intelligence sheds light on the situation, and communications transmits the will of command. Now, in addition to

the blend, there are the particular elements of each one of these abstract subjects which are the realm of the specialist. No commander can possibly know all there is to know about all of these subjects, but he must know that central area as it applies to his situation. The specialist in each area is also needed to assist the commander.

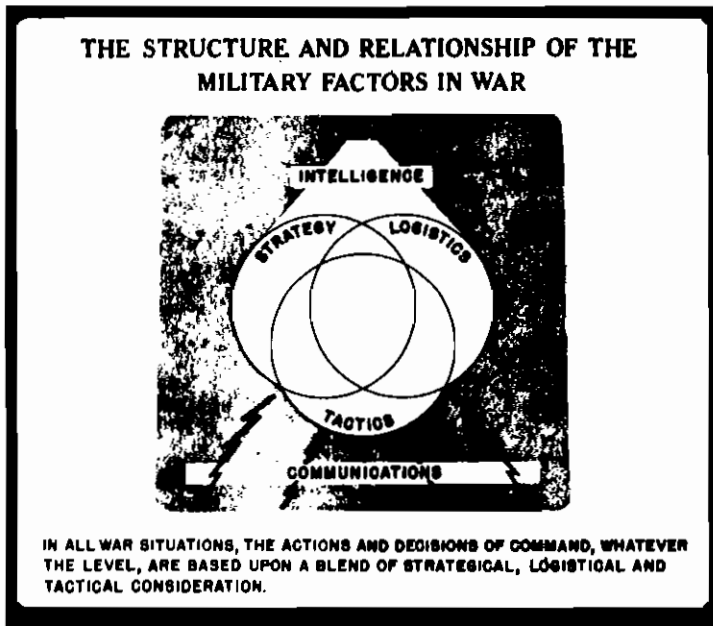


Figure 3

Now, a sound concept of strategy is the foundation for all high military thinking. I believe that the higher the level of thought, the more strategy and logistics tend to coalesce. Doctor Rosinski concurs with me on that, for he thinks of logistics as an included part of strategy. Admiral Robbins disagrees with me on that. So, we have two students of war who disagree categorically on the particular abstract formulation that I have presented to you. But, they both agree on the importance of each man seeking his own understanding of these relationships.

Now a few words on strategy, because a sound strategy must be the essential element of all high military thinking. What, then, is strategy? Doctor Rosinski has summed it up better than anybody I know in a paper that he wrote two years ago for the President of the War College ("Thoughts on Strategy and Tactics"). In this very brief, extremely interesting paper he said, among other things:

Strategy is the comprehensive direction of power. Tactics is its immediate direction

Since strategy must take into account the multitude of possible counteractions, it becomes a means of control. *This element of control is the essence of strategy*

Strategy must be selective in order to achieve economy. Therefore, comprehensive control requires concentration on minimum key actions or positions from which entire field can be controlled

The concept of control applies equally to offense and defense.

I think that this concept provides a solid foundation for strategic thinking. There is much more to be said on strategy — much more — and much thinking to be done.

Now, let's take a look at logistics. It can be seen in two lights. First,

The logistics process is at one and the same time the military element in the nation's economy and the economic element in its military operations.

This was said first by Duncan Ballantine in 1947, and picked up in a Munitions Board Study in 1949. I think it is an extremely important concept. Logistics must have its roots in the

economy. It has its purpose, its objective, in the sustained effectiveness of the combat forces, and, thus, logistics becomes the *bridge* between the national economy and the tactical operations of the combat forces.

In the charts (Logistics, the Bridge) which you will find in the back of this lecture, I have developed some of the applications of this abstract concept which I believe give a fair representation of the most important aspects of this thought of logistics being the bridge between the national economy and the operations of the combat forces. We must always bear in mind that the objective of all logistics effort is to create sustained combat effectiveness.

Now let's look at this in a somewhat different way:

The practical application of strategic concept = specific tactical operations *preceded* by logistic action.

Dropping all theory, forgetting about abstractions, getting right down to the practical elements of the situation, it doesn't do you a bit of good to have the finest strategic concept in the world if you cannot translate it into tactical operations. If you do not precede your tactical planning and your tactical operations by the necessary logistical planning and the necessary logistical action, the strategic concept is worthless. Mr. Eden found that out, to his disgrace and ruin.

Let's take a quick look at the economic sources of strategy. Economic factors are interlocked and regenerative and, among other things, they include: the development of trade routes, the sources of materials and distribution of products, the desire to attain or maintain a standard of living, the problem of excess population. Remember, economic warfare springs from economic competition — and, as economic warfare increases in intensity, it may combine with social-political competition to produce violent conflict. When conflict takes place and violence takes place, the

enemy's economy becomes the target for destruction or interdiction. His logistics system bridging the economy and the combat forces becomes an immediate target.

Now, a further thought which I will repeat from time to time:

Economic capabilities limit the combat forces which can be created.

Logistic capabilities limit the forces which can be employed.

It doesn't do a civilian economist or a civilian business man any good to become Secretary of Defense — and produce a defense system oriented around business economy and procurement and the most economical and efficient business management of a military force — if, by reason of the neglect or ignorance of logistical factors, the combat forces created at that great effort cannot be profitably employed in the execution of tactical operations supporting strategic objectives and concepts. Well, what does all this mean? It means that economic-logistic factors determine the limits of strategy.

A further thought: economic factors can upset the political stability of a nation, or an alliance, and can force changes both in policy and strategy. You have a brilliant example of that in the British White Papers of recent years, in Britain's action in regard to NATO, and the defense of Western Europe.

Now, a further thought along this same line of economic-logistics. As I said before, economic factors determine the upper limits of the forces which can be created; strategic-tactical-logistic factors — a blend of them — determine the nature of the forces; and the logistic factors determine the balance and, ultimately, the combat effectiveness of these forces.

That is a mouthful. But, remember that in determining the balance of our forces, the disposition of our forces, the bal-

ance between the combat force and the logistic force, we must evaluate strategic, tactical, and logistic factors, and from this analysis determine the proportion of tactical and logistic forces which will produce the greatest combat effectiveness. *This best proportion does not necessarily mean the largest number of combat forces.*

Let's take a look at some general strategic-logistic relationships. What are the general types of strategic-logistic relations? (See Figure 4).

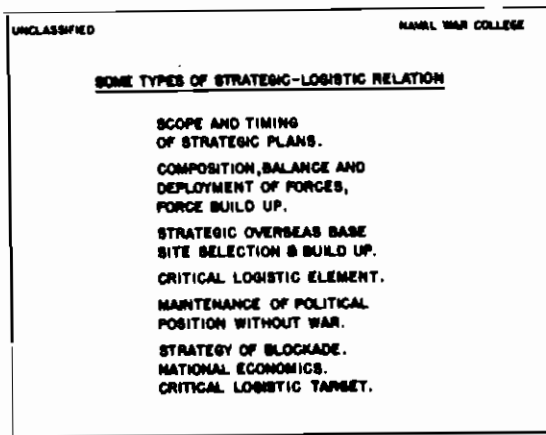


Figure 4

In the first place, the scope and timing of logistics plans is influenced. As I said a moment ago, the composition, balance, and deployment of forces in the force build-up is influenced by these factors. Strategic overseas base site selection and build-up is a striking illustration of the relationship between strategy and logistics. A critical logistic element in your own forces may greatly influence your strategy. We have the situation of attempting to maintain a political position without war. We have the well-known strategy of blockade, which is an economic matter and involves the selection of critical logistic targets.

Well, let's get back to history. What does history tell us about these things in the past? How have these matters acted and how have they influenced strategy? (See Figures 5, 6, 7).

UNCLASSIFIED		NAVAL WAR COLLEGE	
ILLUSTRATIONS OF STRATEGIC-LOGISTIC RELATION			
EVENT	RESULT	ILLUSTRATES	
GLORIOUS FIRST OF JUNE SEA BATTLE 1794 HOWE VS VILLARET	CHESAPEAKE FOOD CONVOY ARRIVED. FRENCH REVOLUTION SURVIVED.	STRATEGY OF BLOCKADE VS NATIONAL ECONOMICS PLUS MISTAKEN OBJECTIVE	
U.S. SUBMARINE CAMPAIGN VS JAPAN	DESTROYED JAPAN'S OIL TRANSPORT. CRIPPLED FLEET & AIR FORCE.	STRATEGY OF BLOCKADE & CRITICAL LOGISTIC TARGET	
CHINA 1947 - 1949	NATIONALIST FORCES IN BURDEN SURRENDERED WHEN PROMISED U.S. LOGISTIC SUPPORT DID NOT ARRIVE.	LOSS OF POLITICAL POSITION WITHOUT WAR - LACK OF SOUND LOGISTIC PROCEDURE	
U.S. AIR LIFT BERLIN BLOCKADE 1948	UNEXPECTED U.S. CAPABILITY FOR AIRLIFT SUSTAINED BERLIN.	MAINTENANCE OF POLITICAL POSITION WITHOUT WAR	

Figure 5

UNCLASSIFIED		NAVAL WAR COLLEGE	
EVENT	RESULT	ILLUSTRATES	
CAIRO CONFERENCE 1943 SPECIFIC ITEMS.	MAJOR STRATEGIC DECISIONS.	SCOPE & TIMING OF STRATEGIC PLANS.	
NORMANDY LANDING 1944 A.	DELAY 1 MONTH	ALLOW TIME FOR BUILD UP.	
SOUTHERN FRANCE 1944 B.	DELAY 2 MONTHS	CRITICAL LOGISTIC ELEMENT, AVAILABILITY OF LANDING CRAFT.	
AGEAN EXPEDITION. C.	CANCEL.	CRITICAL LOGISTIC ELEMENT, LANDING CRAFT OILERS.	
MOULMEIN LANDING D.	CANCEL.	CRITICAL LOGISTIC ELEMENT, LANDING CRAFT & STEEL.	

Figure 6

I take my first example from Admiral Bates' previous lecture. In his splendid talk he discussed the Glorious First of June

Sea Battle in 1794 between Howe and Villaret. The result of that battle was that the Chesapeake Food Convoy arrived. This contributed greatly to the survival of the French Revolution and the subsequent Napoleonic Wars. This illustrates the strategy of blockade *versus* a national economic target, and it also introduces something which is not logistical but which is strategical — the mistaken objective.

UNCLASSIFIED		NAVAL WAR COLLEGE	
EVENT	RESULT	ILLUSTRATES	
ALL WPI PROPSIC AMPHIBIOUS LANDINGS	SUCCESSFUL STRATEGIC DRIVE TOWARD ENEMY HOMELAND & DESTRUCTION OF ENEMY BASES, FLEET & AIR FORCE.	OVERSEAS BASE SITE SELECTION & LOGISTIC BUILD UP ALONG LINE OF STRATEGIC ADVANCE.	
NORSEMAN MANEUVER, SELECTION OF SWARMON SITE & SCHEME OF MANEUVER.	ESTABLISHED FIRM BASE FOR DESTRUCTION OF GERMAN ARMY & LIBERATION OF EUROPE.	INTEGRATION OF STRATEGIC-LOGISTIC- TACTICAL PLANNING. COMPOSITION-BALANCE & DEPLOYMENT OF COMBAT & LOGISTIC FORCES.	
SUEZ CRISIS 1956	P P P	LACK OF INTEGRATED STRATEGIC-LOGISTIC PLAN. CRITICAL ECONOMIC- LOGISTIC ELEMENTS, OIL & TRANSPORTATION LACK OF RAPID FORCE BUILD UP. LACK OF SEA-AIR TROOP & COMB LFT.	

Figure 7

The United States submarine campaign against Japan destroyed Japan's oil transport, crippled their fleet and their air force. It illustrates the strategy of blockade and a critical logistic target.

In China, in 1947 and 1949, we have a very interesting and controversial illustration in which the Nationalist Forces in Mukden surrendered when the promised U. S. logistic support did not arrive. This illustrates the loss of political position without war and illustrates the consequences of a lack of sound logistical procedure.

We have the United States airlift in the Berlin Blockade, in which an unexpected U. S. capability for airlift sustained Berlin and we were able to maintain a political position without war.

Now there is nothing more interesting to the student of strategy and logistics than to study the minutes, the reports, and the analyses of the great international conferences which took place in 1943, 1944, and 1945. The Cairo Conference of 1943 resulted in major strategic decisions, and illustrates the influence of logistics on the scope and timing of strategic plans. In particular, the Normandy Landing was delayed one month to allow time for logistic build-up. The Southern France Landing was delayed two months because of a critical logistic element — the availability of landing craft. The Aegean expedition was canceled because of two critical logistic elements — landing craft and oilers. The Moulmein Landing of Lord Mountbatten was canceled because of the critical logistic element — landing craft and steel.

Every World War II Pacific Amphibious Landing illustrates this relation between strategy and logistics. The result of those landings was a successful strategic drive toward the enemy homeland and the destruction of the enemy bases, his fleet and his air force. They illustrate the problem of overseas base site selection and the logistic build-up along a line of strategic advance.

The Normandy Invasion is another beautiful example, because here is the selection of the invasion site and the scheme of maneuver. This invasion established a firm base for the destruction of the German Army and the liberation of Europe. It illustrates the integration of the strategic, logistical and tactical planning. It also illustrates the problem of the composition of balance and deployment of combat and logistic forces.

Gentlemen, we don't yet know all the ultimate results of the Suez fiasco of 1956, but we do know that the following strategic-logistic relationships were illustrated. There was a complete lack of strategic-logistic planning. We saw the working of a critical

economic-logistic element: the economic element of oil; the critical logistic element of a lack of air and sea lift to move combat forces rapidly. There was a lack of time for force build-up, and this, of course, was the same — the lack of troop and cargo lift.

I have briefly presented some specific, very practical examples of the relationship between strategy and logistics. There are hundreds more. The study of them and the search for them is fascinating. There is much to learn.

Now let's turn again to the theory of integration of strategic and logistic planning. What is the basis for plans?

THE BASIS FOR PLANS

Objective or Mission	}	=
The Forces Involved		
The Scheme		
The Intensity of Action		
The Timing		

Time-Phased Logistic requirements Both to Create and to Support the Combat Forces.

What?

i.e., How Much?

When?

Where?

This is oversimplified, but the basis for plans is the objective or the mission, the forces involved, the scheme of maneuver, the intensity of action, the timing. All these must be related to the geography and to the availability of combat forces. From these factors we can develop time-phased logistic requirements both to create and to support the combat forces. In other words, from these elements we get: What? How Much? When? Where? And these answers must be related to availabilities of logistic resources. The concepts must come from the mind of command — but, in our complex technology of today, the mind of command must be supplemented by efficient and understanding staff work.

The staff responsibilities are:

Operations states forces and schemes.

Logistics states probable shortages.

Operations and logistics jointly suggest modifications.

Command evaluates and decides.

For this to be effective, the strategic-logistic discussion and thought among the members of the staff in the logistics division and in the operations division must be concurrent. You cannot have a strategic plan burst full-blown from the brow of Zeus, and then pass it over to the logistics boys and ask, "Now can I do it?" because too much time is consumed. The men who are doing operational and strategic planning must know enough about logistics so that their schemes are not absurd. And, gentlemen, in the past we have had some awfully absurd schemes spring from the minds of so-called "strategists," who isolated themselves from the logistics facts of life.

Now I told this to the Naval Warfare I Class last week, and I will repeat it and tell it as long as I have the breath in my body: It is not the task of any logistics division to decide logistics feasibility. The logistics division decides on the logistic requirements to support a scheme for operating combat forces. It must know the state of logistic availabilities, and states to the Commander what shortages to expect under the scheme which he proposes. One of the toughest of all command decisions is to decide this question of "logistic feasibility." It cannot be passed to a logistics division except in cases where the mass of material, the complexity, and the lack of foresight have been so great as to result in a plan which is so obviously bad that it cannot come close to being supported.

Now, what is logistic feasibility? What is a calculated risk? Logistic feasibility is the measure of the degree of risk and

hardship that the Commander is willing to place upon his subordinates in order to accomplish the tactical and strategic objectives of his strategic concept. It is a command decision, and great sacrifices may be called for in this matter. Too often we hear people use the term "a calculated risk" when there has been absolutely no calculation whatever, but merely a guess. They are dangerous words — "feasibility" and "calculated risk" — and it is well to know what you are talking about when you use them.

A few more thoughts along this line:

Command transforms war potential into combat power by its control and use of the logistic process.

In other words, a Commander who does not understand and has not the ability to control and to use his logistic support effectively is very limited in the degree to which he can develop combat power, regardless of what war potential or combat forces he may have.

Before considering the general trends which seem to be developing in our defense system, it is well to restate the basic thought:

Economic factors limit the combat forces which can be created.

Logistic factors limit the combat forces which can be employed.

X X X

What are the trends of today? The trends are complex and contradictory because the sources of these trends are themselves complex and contradictory. The trends which we can observe grow out of fundamental human forces — the same forces which

have caused the Industrial Revolution and its latest phase, the Nuclear-Electronic Revolution.

Among these trends we have a trend toward increasing centralizing, with the elevation of military decision to higher and higher brackets of command and its transfer to civilians in government. This applies to strategy, logistics, and tactics. If you don't think it applies to tactics, just think of the question of who decides on the tactical use of atomic weapons.

Weapon systems demand their own logistics more and more. Each new complex weapon system is asking to have its own logistic support, and that factor alone presents some very difficult problems for command to handle.

Another trend is that the center of gravity of personnel is moving back toward the Zone of the Interior as the balance of personnel swings to logistics by reason of technological advance. Of course the most striking example of that is the Air Force, where the job of combat pilot seems to be disappearing rapidly. Certainly it takes a lot more men to make sure that things work right when you push the button than it takes to decide to push the button. In fact, today, gentlemen, military commanders are making fewer combat decisions and more logistical decisions. This has important implications in the study of command.

In preparing to act effectively throughout the whole Spectrum of Conflict, we should recognize how logistics factors tend to dominate. For example, we have the logistics of thermo-nuclear war. To a large degree this is a matter of civil defense. The logistics of recuperation requires the use of methods of advanced base development. It also needs decentralized logistic support to sustain thermonuclear retaliation.

But what about a conventional war? Any conventional war which we may engage in will be fought under the threat of thermonuclear war. Conventional logistics to create sustained com-

bat effectiveness will be required. Economy of resources will also be needed — not only to maintain an economic-political position, but also as a standby for possible thermonuclear war. And certainly the logistics of a cold war requires economy of force — and as they cut the budget, the shoe begins to pinch. The logistics of the cold war requires logistic readiness, both for conventional warfare and for thermonuclear warfare. Furthermore, a healthy economy is required for the long-range economic-political struggle.

I have briefly stated some of the problems. I think they all add up to a study of principle — the understanding of cause and effect. These matters involve difficult decisions for command, and in these there must be integration of strategic and logistical thinking. They require combat effectiveness in conflict. There is no payoff if the troops can't fight.

At the highest level of command, command is concerned with the economic-logistic influences and their limitations on strategic decision. As the level of command descends, these limitations and influences tend to shift to the purely logistical, and, there, they limit and influence the immediate employment of specific combat forces.

Today, the mind of civilian command is concerned primarily with economic influences and limitations. The mind of military command is concerned primarily with operational logistic influences and limitations, although it has plenty of work in the economic field, too.

But the chief point is that both civilian and military Commanders must be aware of these influences and of these limitations, and must understand the shifting relationships in the exercise of control which modern conflict requires.

Well, do I presume to call this a comprehensive theory of war? Do I presume to call it a modest start on pointing your thinking toward what we need to know? Perhaps it is one, perhaps it's

the other. Regardless of which it may be, I think it is rewarding to think in the following terms.

We need to know more about the elements of power in modern conflict.

We need to know a great deal more about the position of strategy as continuous comprehensive direction of power for the purpose of exercising control.

We need to know more about the selection of correct strategic objectives and the employment of appropriate elements of power in the attainment of those objectives.

We need to recognize the need for adjusting the use of power as the nature and area of the conflict shifts.

We need to know a great deal more about the position of the process, the art, the science of logistics as the bridge between the national economic base and the effective employment of combat forces.

We need to know more about the manner in which logistic factors limit the employment of combat forces.

We need to know a great deal more about command and command decision.

And, finally, we need to know that high command must always seek the understanding, the organization, and the decision process which are most suitable to the flexible employment and direction of power in modern conflict.

BIOGRAPHIC SKETCH

Rear Admiral Henry E. Eccles, U. S. N., (Ret.)

Rear Admiral Eccles was born in Bayside, New York. He attended Columbia College, and was graduated from the United States Naval Academy in 1922. He received his M.S. degree in Mechanical Engineering from Columbia University in 1930.

He spent twelve years in submarine duty and the remainder in battleships, cruisers and destroyers. He had command of the U. S. S. JOHN D. EDWARDS, Asiatic Fleet, during part of World War II, taking part in the Netherlands East Indies Campaign during that period. Subsequent assignments were in the Navy Department and a return to the Pacific Area with Service Force, Pacific Fleet, where he remained until the end of the war. During 1943, he attended the Command Class at the Naval War College.

In 1946, Rear Admiral Eccles (then a Captain) commanded the U. S. S. WASHINGTON. Following this, in 1947, he reported to the Naval War College to plan and organize the newly formed Logistics Department and to serve as the first head of that department, where he remained until 1951.

During 1951 and 1952, he was Assistant Chief of Staff for Logistics with Commander Allied Forces, Southern Europe, through the formative period of that Command. He retired with the rank of Rear Admiral on 30 June 1952. Since 1952, he has been with the George Washington University Logistics Research Project.

LOGISTICS, THE BRIDGE

CHART 1

THE LOGISTIC PROCESS USING THE FUNDAMENTAL ELEMENTS OF LOGISTICS: REQUIREMENTS, PROCUREMENT, DISTRIBUTION, AND THE BASIC ASPECTS OF COMMAND: ORGANIZATION, PLANNING, EXECUTION AND SUPERVISION, FORMS A BRIDGE BETWEEN THE ECONOMIC SYSTEM OF THE NATION AND THE ACTUAL OPERATIONS OF THE COMBAT FORCES.

THE FOLLOWING CHART PROVIDES AN OVER-SIMPLIFIED DESCRIPTION OF HOW THIS WORKS. IN STUDYING THIS CHART A FEW BASIC THOUGHTS MAY BE HELPFUL.

LOGISTICS IS: AN ART, A SCIENCE, A PROCESS.

THE LOGISTICS PROCESS IS AT ONE AND THE SAME TIME THE ECONOMIC ELEMENT OF OUR MILITARY OPERATIONS AND THE MILITARY ELEMENT OF OUR ECONOMY.

GOOD PROGRAMMING AND FINANCIAL MANAGEMENT SHOULD PERMEATE WHOLE PROCESS. (COMPTROLLER TECHNIQUE IS PART OF THIS.)

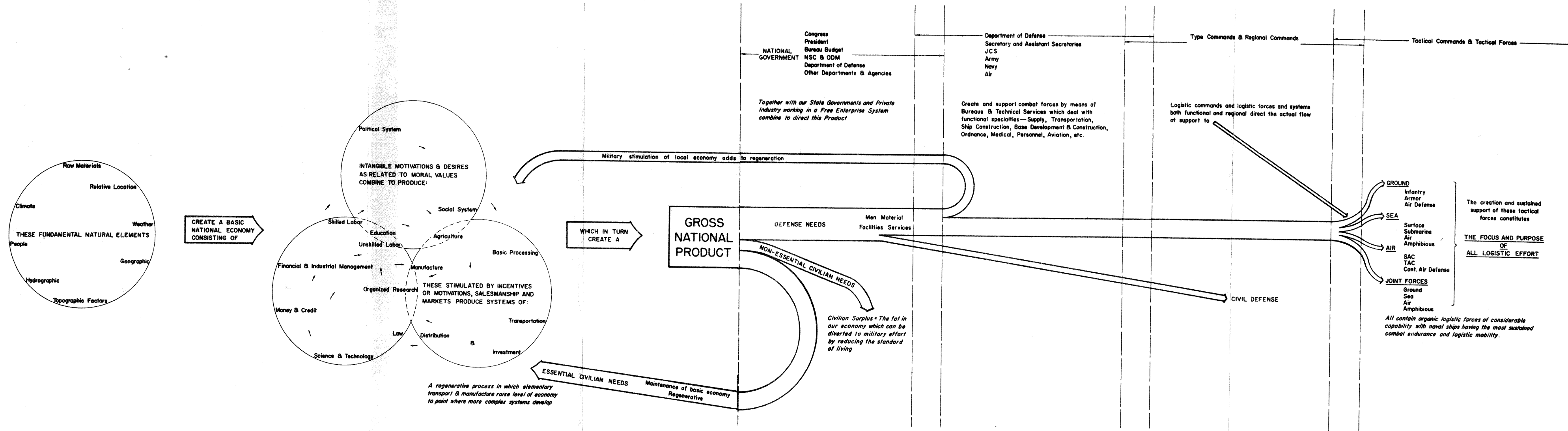
THE PROCESS OF FULLY INTEGRATED STRATEGIC-LOGISTIC PLANNING RELATES MEANS TO SPECIFIC STRATEGIC OBJECTIVES. WHEN THIS IS FOLLOWED BY SOUND LOGISTIC PROCESSES AND PROCEDURES THE TIMELY LOGISTIC SUPPORT OF TACTICAL FORCES IS ASSURED.

CRITERIA = {
COMBAT EFFECTIVENESS-ALWAYS.
BUDGET ECONOMY IN PEACE.
TIME-RESOURCES- OBJECTIVES IN WAR.

FINALLY, DO NOT THINK THAT THESE DESCRIPTIONS AND CATEGORIES ARE EXACT NOR THAT THEY CAN BE PRECISELY DIFFERENTIATED. IN REALITY THEY ARE INTERTWINED IN WONDROUS MANNER!

LOGISTICS, THE BRIDGE

CHART II



LOGISTICS, THE BRIDGE

CHART III

HOW VARIOUS LEVELS OF COMMAND EXERCISE LOGISTIC CONTROL

